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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/566,571 | 01/31/2006 | Masayoshi Sawai | Q92871 | 3691 |

65565 7590 03/15/2007
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WASHINGTON, DC 20037-3213

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| EXAMINER |
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LAU, TUNG S

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2863

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 03/15/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|-----------------|------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/566,571 | SAWAI, MASAYOSHI | |
| | Examiner | Art Unit | |
| | Tung S. Lau | 2863 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/31/2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath, or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings Objection

1. The drawings are objected to under 37 CFR 1.84 (n)(o) which requires legends on drawings and its identification in figures 1, 4a, 5, 7a, 8, 10a, 11a, 11b, 11c the blocks in fig. 1, 10e, 1s, pe, p0, 10s, ps, ws, fig. 4a, Ve, V5, No, v2, Vo, Vs, ws, N1, N2, N3, N4, N5, Ne, in fig. 5, n1-n6, fig. 7a, section of No-Ne, W0-W5, Ws, Ns, Vs, in fig. 8, Section of PO'-1s' and 10s', In fig. 10a, section of No-Ve and Vs, WO', in fig. 11a, section of PO-Ve1, Vs, in fig. 11b, section of PO-Ve2 and VS, in fig. 11c, section of PO-Ve3 and Vs. Should be provided with descriptive labels and identification (e.g. software protocol, transmitter, frequency hopper, receiver, etc), correction is required.

Claim Rejections - 35 USC § 101

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 101 that form the basis for the rejections under this section made in this Office action:

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 2, 4, 12, 10, 3, 5, 13, 11, 6, 14, 7, 15 and 8 are rejected under 35

U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In claim 1, the method for calculating a rotation angle of a wire harness including setting vectors, calculate angles and adding angles, recoding angle. These claims appear to merely describe mathematical transformation and lack of concrete and tangible result. The practical application of the claimed invention cannot be realized until the information determined is conveyed to the user. For the result to be tangible it would need to output to a user or stored for later use. Hence the claims are treated as nonstatutory functional descriptive material (See MPEP § 2106 and OG Notices: 22 November 2005, Guidelines for Subject Matter Eligibility,

<http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm>

See MPEP 2106 IV B (1) (b).

For instance in claim 1, the method steps of the method for calculating a rotation angle of a wire harness including setting vectors, calculate angles and adding angles, recoding angle are data manipulation. This fails to present a concrete, tangible useful result. An example of a concrete, tangible useful result may include displaying, storing for further use, generating a control signal etc. of the calculating, adding angles and store angle. The applicant should review the disclosure to determine what type of tangible result is being carried out in this instant application and such limitation be included in the claim. For further guidance see

<http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm>

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 2, 10, 6, 14, 7, 15, 8 and 9 are rejected under 35 U.S.C. 102(a) as being anticipated by Kawakita et al. (U.S. Patent Application Publication 2002/0161535, Pub. Date Oct. 31, 2002).

Regarding claim 1:

Kawakita describes a rotation angle calculating method of a wire harness (abstract), in which a rotation angle of the wire harness is calculated at an arbitrary measuring point of the wire harness when the wire harness is deformed from a first shape to a second shape while a fixed point of the wire harness is fixed (fig. 23, 19), the rotation angle calculating (page 10, section 134, page, 14, 175, specially the movement of an angle in the door) method, comprising the steps of: setting a plurality of intermediate points between the fixed point and the measuring point of the wire harness in the second shape (fig. 5, unit 3 on the door, and 5 on the body of the car), wherein the fixed point (fig. 23), the measuring point and the intermediate points are set as nodes respectively (fig. 15, point 5 on the body and point 3 on the moving door of the car)); setting vectors at the nodes of the wire harness in the second shape as node vectors respectively (fig. 10, 15); calculating angles (page 10, section 134), each of

which has a rotation direction (page 10, section 134, page, 14, 175, specially the movement of an angle in the door), wherein each of the angles is defined between the node vectors at the adjoining nodes (fig. 5, 9, 10, 15, an element of vector space); and adding the angles to each other so as to calculate a rotation angle having a rotation direction at the measuring point (fig. 15), recording said rotation angle (fig. 12, unit 9a, 9b, fig. 14, unit 9a, 9b.).

FIG. 5

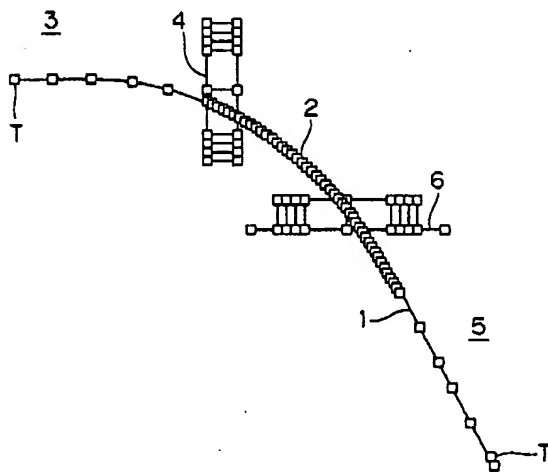
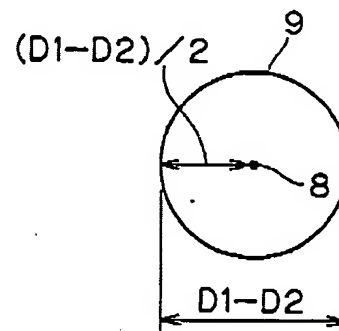


FIG. 7



Regarding claim 9:

Kawakita describes a rotation angle calculating apparatus (page 2, section 0023, lines 19-23) for calculating a rotation angle of the wire harness at an arbitrary measuring point of the wire harness when the wire harness is deformed from a first shape to a second shape while a fixed point of the wire harness is fixed (fig. 5, 9, 15), the rotation angle (page 10, section 134, page, 14, 175, specially the movement of an angle in the door) calculating apparatus, comprising: a node

setting unit (fig. 9, page 2, section 0023, lines 19-23), which sets a plurality of intermediate points between the fixed point and the measuring point of the wire harness in the second shape (fig. 4, 9, 10, 15), wherein the fixed point (fig. 4, 9, 10, 15), the measuring point and the intermediate points are set as nodes respectively (fig. 4, 9, 10, 15); a node vector setting unit, which sets vectors at the nodes of the wire harness in the second shape as node vectors respectively (fig. 4, 9, 10, 15); an angles calculating unit (page 10, section 134, page, 14, 175, specially the movement of an angle in the door), which calculates angles, each of which has a rotation direction (page 10, section 134, page, 14, 175, specially the movement of an angle in the door), wherein each of the angles is defined between the vectors at the adjoining nodes (page 10, section 134, page, 14, 175, specially the movement of an angle in the door, fig. 15); and an angles adding unit (page 10, section 134, page, 14, 175, specially the movement of an angle in the door), which adds the angles to each other so as to calculate a rotation angle having a rotation direction at the measuring point (fig. 9, 10, 15).

FIG. 9

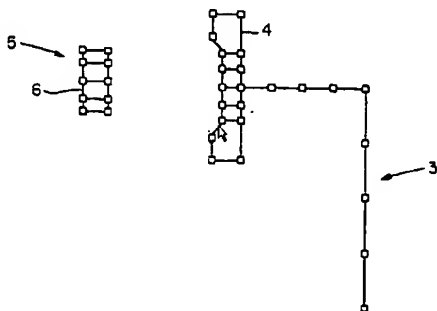
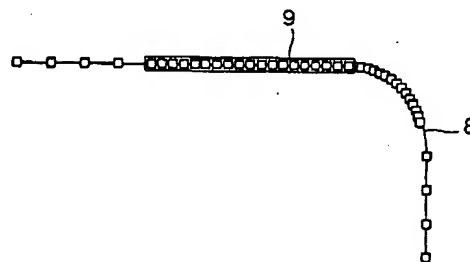
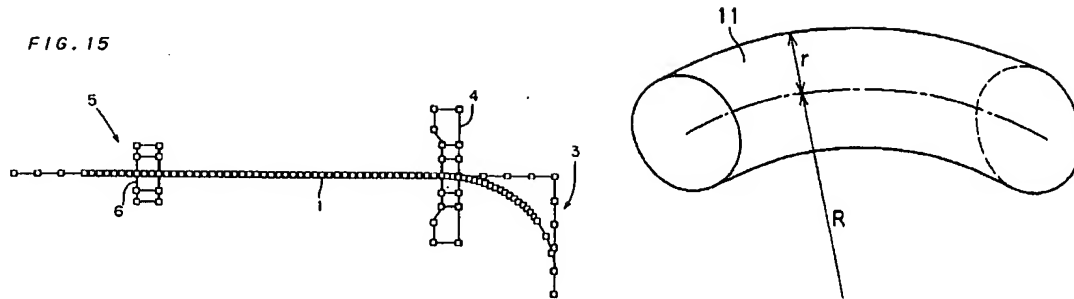


FIG. 10



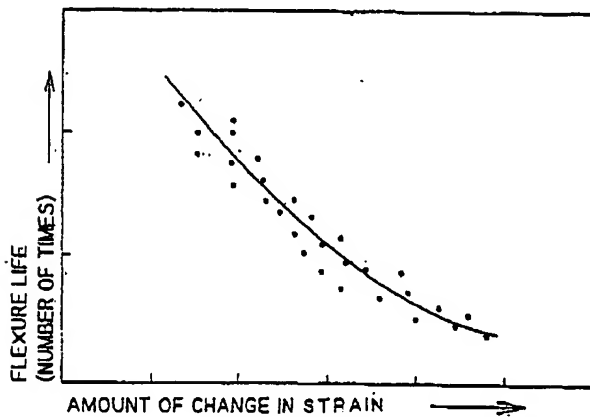
Regarding claim 2, Kawakita further describes the vectors at the nodes of the wire harness in the second shape are tangent vectors (fig. 4, 15).

FIG. 16



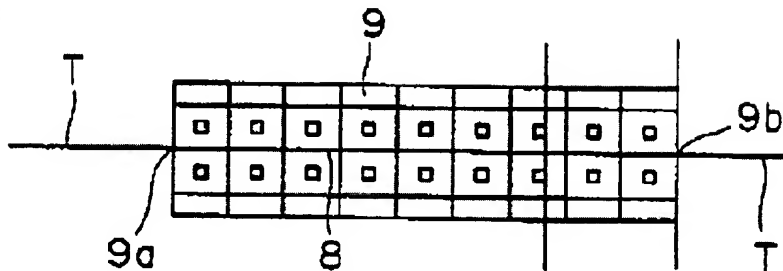
Regarding claim 10, Kawakita further describes a computer-readable recording medium, which causes a computer to execute the rotation angle calculating method (fig. 9, page 2, section 0023, lines 19-23, page 10, section 134, page, 14, 175, specially the movement of an angle in the door).

FIG. 18

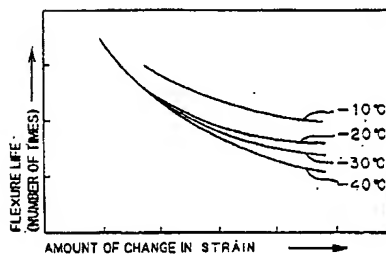
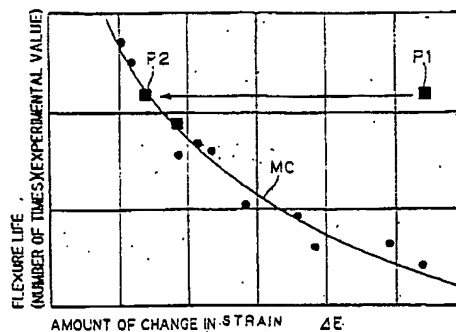


Regarding claim 6, Kawakita further describes the plurality of nodes are set on a center line of the wire harness (fig. 7, 16).

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FIG. 12

Regarding claim 14, Kawakita further describes a computer-readable recording medium, which causes a computer to execute the rotation angle calculating method (fig. 9, page 2, section 0023, lines 19-23, page 10, section 134, page, 14, 175, specially the movement of an angle in the door).

FIG. 19**FIG. 20**

Regarding claim 7, Kawakita further describes distance between the adjoining nodes is set as following formula; wherein

the distance R is smaller than $\pi \cdot d/2$; and

" d " is a diameter of the wire harness.

(fig. 7, page 2-3, section 26, where cross sectional area of the wire is calculated)

Regarding claim 15, Kawakita further describes a computer-readable recording medium, which causes a computer to execute the rotation angle calculating method (fig. 9, page 2, section 0023, lines 19-23, page 10, section 134, page, 14, 175, specially the movement of an angle in the door).

FIG. 23

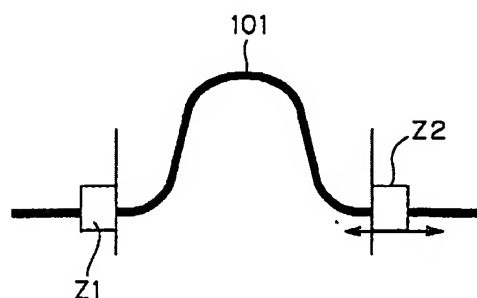
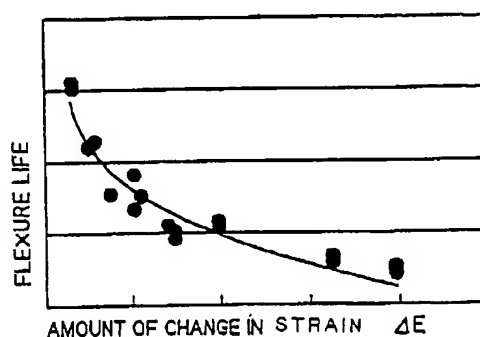
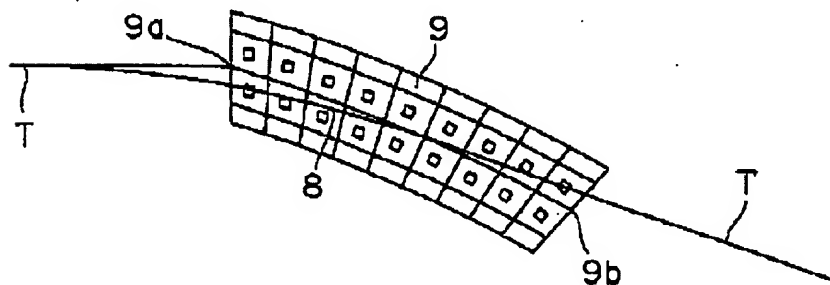


FIG. 26



Regarding claim 8, Kawakita further describes a computer-readable recording medium, which causes a computer to execute the rotation angle calculating method (fig. 9, page 2, section 0023, lines 19-23, page 10, section 134, page, 14, 175, specially the movement of an angle in the door).

FIG. 14



Response to Arguments

4. Applicant's arguments filed 02/08/2007 have been fully considered but they are not persuasive.

A. Applicant argues in the arguments that 37CFR 1.84(o)(n), English descriptive phrases are not generally required as labels. And Ve1, Ve2, ve3 are generally accepted as descriptive label for complex drawing (applicant Remarks page 8, lines 4-15).

As regards to 37 CFR 1.84 (o) Legends. Suitable descriptive legends may be used subject to approval by the Office, or may be required by the examiner where necessary for understanding of the drawing. They should contain as few words as possible.

The examiner has indicated that Ve1, Ve2, Ve3 required by the examiner where necessary for understanding of the drawing, since Ve1, ve2, Ve3 are not universally recognized by anyone (see 37 CFR 1.84(n)). Reminds the applicant that the 'complex' drawings are submitted by the applicant and not submitted by the office.

37 CFR 1.84 (n) Symbols . Graphical drawing symbols may be used for conventional elements when appropriate. The elements for which such symbols and labeled representations are used must be adequately identified in the specification. Known devices should be illustrated by symbols which have a universally recognized conventional meaning and are generally accepted in the

art. Other symbols which are not universally recognized may be used, subject to approval by the Office, if they are not likely to be confused with existing conventional symbols, and if they are readily identifiable. Since figure 4a, Ve1, Ve2, Ve3 do not contain conventional elements, the examiner may require descriptive legends for better understand of the drawing. See MPEP 608.02

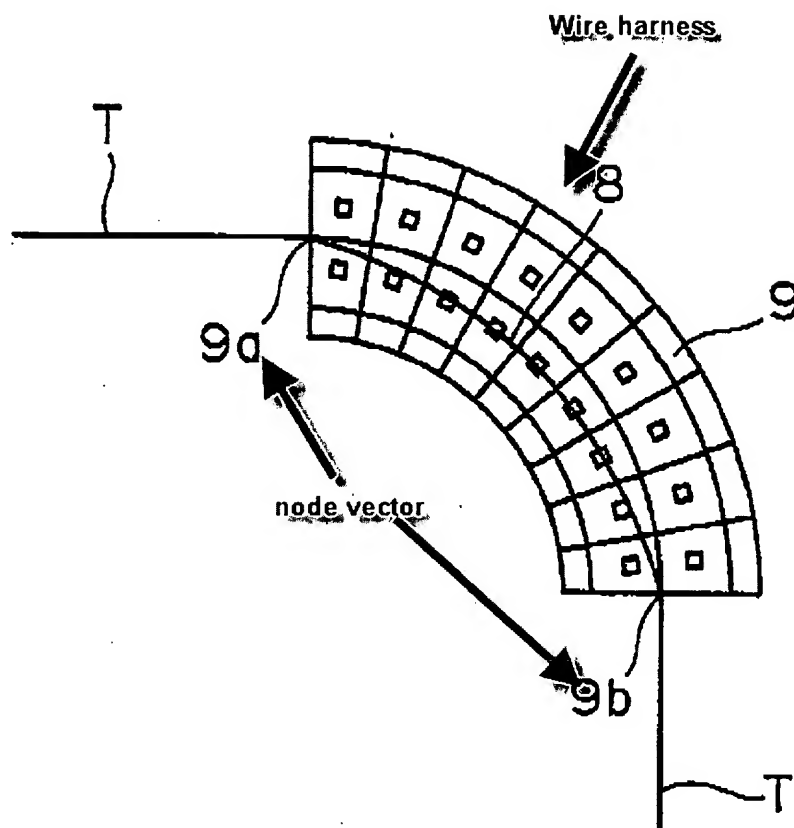
B. Applicant argues in the arguments that the amendment having 'storing said rotation angle' overcome 101 rejection (applicant Remarks page 8, lines 17-21). The fact that the data is 'store' does not means is concrete and tangible since at that stage, the data is within the memory, is the later step that make it concrete and tangible (output, displaying, store for later use).

Again, an example of a concrete, tangible useful result may include displaying, storing for further use, generating a control signal etc. of the calculating and adding angles. The applicant should review the disclosure to determine what type of tangible result is being carried out in this instant application and such limitation be included in the claim. For further guidance see

<http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm>

C. Applicant argues in the arguments that the prior art does not show the 'node vector' in relations to the nodes of the wire harness (applicant Remarks page 9, lines 6-10, page 10, lines 1).

Kawakita describes 'node vector' in relations to the nodes of the wire harness at least in fig. 11, unit 9a, 9b.

FIG. 11

D. Applicant argues in the arguments that the prior art does not show the 'calculating angles' (applicant Remarks page 9, line 15).

Kawakita describes calculating angle (to design the figure formed by two lines extending from the same point, see attachment) in at least fig. 11, unit 9a, 9b.

Reminds the applicant that words in patent claims are given their ordinary meaning in the usage of the field of the invention, unless the text of the patent makes clear that a word was used with a special meaning; *Phillips v. AWH Corp.*, *415 F.3d 1303, 1313<, 75 USPQ2d 1321>, 1326< (Fed. Cir. 2005) (en banc). *Sunrace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1302, 67 USPQ2d 1438, 1441 (Fed. Cir. 2003); *Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298 67 USPQ2d 1132, 1136 (Fed. Cir. 2003), and where an explicit definition is provided by the applicant for a term, that definition will control interpretation of the term as it is used in the claim. *Toro Co. v. White Consolidated Industries Inc.*, 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999), See MPEP 2111 [R-5](III). In this case, no special meaning were giving to 'calculating angle', so an ordinary meaning is giving. USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Reminds the applicant that limitations appearing in the specification but not recited in the claim are not read into the claim. *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003).

E. Applicant argues in the arguments that the prior art does not show the 'rotation direction' (applicant Remarks page 10, lines 4, 16).

Kawakita describes at least rotation direction in fig. 11, unit T, (rotating a down direction).

F. Applicant argues in the arguments that the prior art does not show the 'vector representation associate nodes' (applicant Remarks page 10, lines 4). Kawakita describes at least 'vector (an element of a vector space) representation associate nodes' in fig. 16, unit r, R, fig. 11, unit 9a, 9b, 8, 9, as each one contains magnitude (unit 8, 9) and direction (down) as the shape (fig. 28, unit s22, S23, fig. 12, unit 9a, 9b) also contains magnitude (length 8 in fig. 12) and direction (where it extended to).

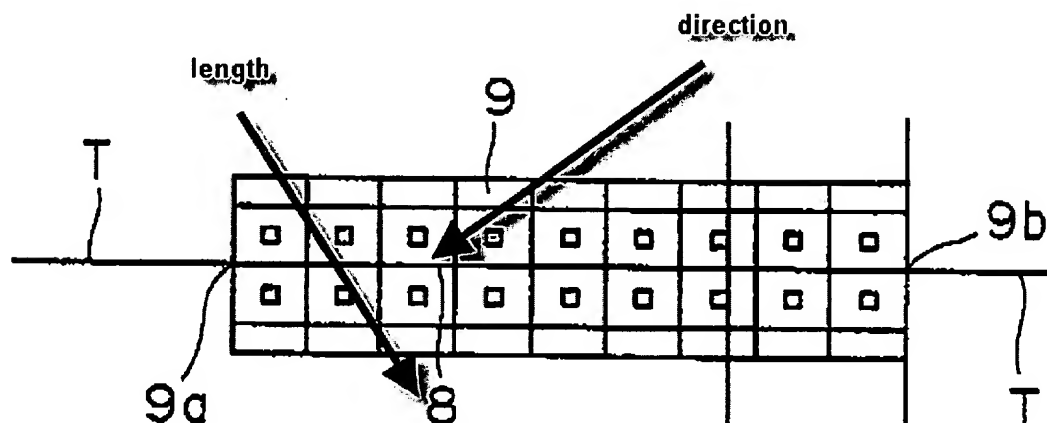
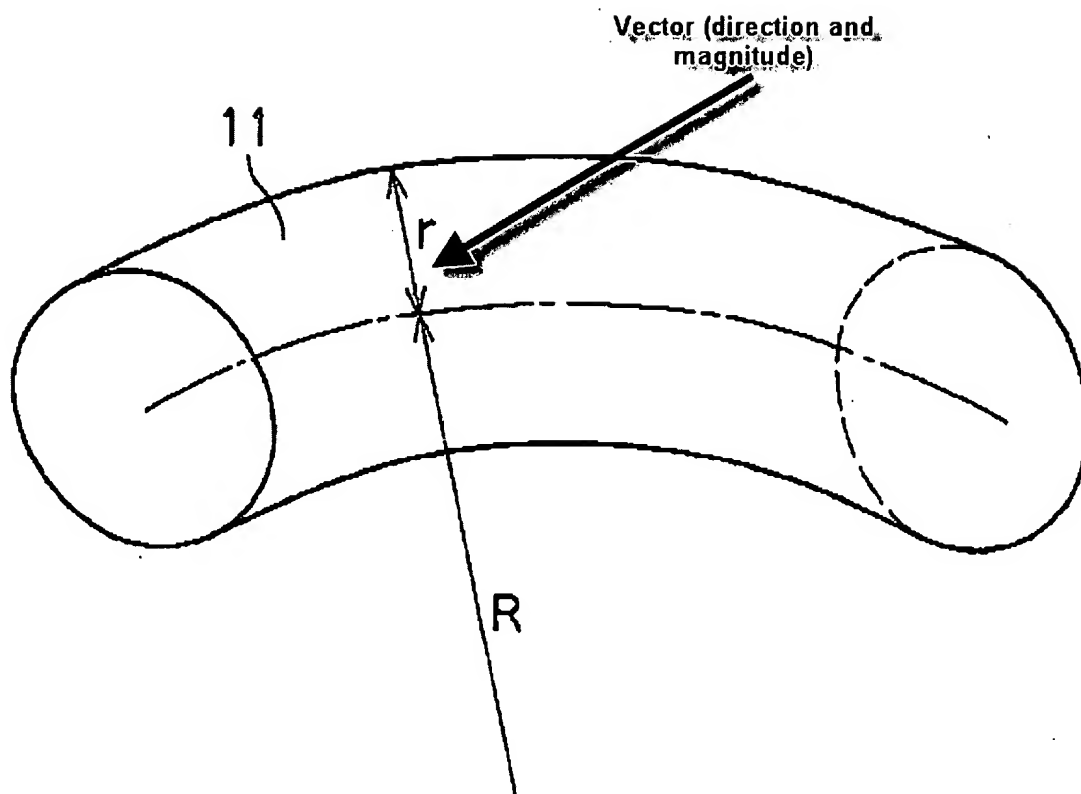
FIG. 12

FIG. 16**Conclusion**

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 571-272-2274. The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone numbers for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL


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Technology Center 2800